

**STATEMENT OF JOHN C. LAYTON
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DEPARTMENT OF ENERGY
BEFORE THE
SUBCOMMITTEE ON OVERSIGHT AND INVESTIGATIONS
COMMERCE COMMITTEE**

U.S. HOUSE OF REPRESENTATIVES

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Mr. Chairman and Members of the Subcommittee, I am here at your request to testify on the Department of Energy's (DOE) management of its laboratories.

The Department annually spends approximately \$6 billion of taxpayer funds for the operation of the Department's 24 contractor-operated research and development laboratories. These contractors include non-profit entities, educational consortia, and major industrial corporations. Because of the structure of these contracts, the contractors bring little in the way of assets and capital to the venture. The taxpayers, through DOE, fund essentially all of the capital infrastructure and on-going operations of the laboratories. The basic premise of this relationship is that the contractors manage the day-to-day laboratory operations and the Department is responsible for administering the contracts to ensure that the taxpayers receive fair value for their money and that the contractors are held accountable for their actions.

The Department of Energy Laboratory System In Perspective

I would like to provide some background information to put the operation of the Department's laboratory system in perspective.

DOE's FY 1996 budget was \$16 billion. Of this amount, \$14 billion was obligated for management and operating (M&O) or similar-type contracts. The contractors employed about 110,000 people while the DOE employed about 12,000 (excluding the Power Marketing Administrations and the Federal Energy Regulatory Commission) to run the Department.

The missions of the laboratories vary from maintaining nuclear weapons to searching for the smallest particles known to humankind. Some laboratories exist to conduct research in particular areas, while others conduct research in broad areas using special tools such as accelerators, cyclotrons, and lasers. These laboratories are the homes of sophisticated research tools and talented scientists and engineers.

The DOE laboratory system includes single program laboratories such as the Ames Laboratory and the Fermi National Accelerator Laboratory, as well as multi-program laboratories such as the Oak Ridge National Laboratory. Further, laboratories, such as the Brookhaven National Laboratory, provide user facilities for university and private sector research. The largest DOE laboratories have traditionally been weapons laboratories and are perhaps the best known. They are Lawrence Livermore National Laboratory, Los Alamos National Laboratory, and Sandia National Laboratories. I have prepared Exhibit 1 which shows all of the Department-owned, contractor-operated laboratories and the respective FY 1996 costs.

The Department of Energy's research activities have contributed to positive developments in many facets of American life. For example, there have been significant benefits in terms of health care such as new and effective methods to diagnose and treat cancer and in the development of artificial limbs. Research undertaken by the Department's laboratories has resulted in quality of life enhancements affecting many aspects of our day-to-day lives. DOE-sponsored research has led to significant new developments in computing and telecommunications. The development of a key component of the air bag emanated from basic research in DOE's laboratories. The Department's

laboratory system is also leading the way in the quest for the basic building blocks of matter.

While these achievements are recognized, our reports have disclosed weaknesses in contract administration in the management of the DOE laboratories. The Department has also identified contract administration as a material weakness. We have testified on this subject several times before this and other congressional committees. The Department, in attempting to address contract administration concerns, has established task forces that have looked at improving contract administration and the operations of its laboratories. I would like to briefly discuss the various efforts the Department has undertaken.

In June 1993, the Department assembled a contract reform team to study problems that were inherent in the traditional management and operating contract. This team issued a report in February 1994, entitled *Making Contracting Work Better and Cost Less*. The report identified many criticisms of DOE's contracting practices as previously highlighted by the Office of Inspector General (OIG) and the U.S. General Accounting Office. The report's recommendations provided a basis for implementing performance-based contracting.

In February 1995, the Department issued a report entitled *Alternative Futures for the Department of Energy National Laboratories*. The report identified ways to reconfigure DOE's laboratory system and suggested downsizing the system through the elimination of functions and redundancies. The task force concluded that multi-program laboratories had self-generated mission descriptions which were so broad and generalized that they were essentially

indistinguishable. The report stated that the Department and the laboratories must develop mission assignments which will balance the strength of these institutions as multi-program laboratories with the need to provide greater strategic focus within a tight Federal budget environment.

The Alternative Futures Report raised the issue of purported excessive oversight by the Department. This report, in part, resulted in DOE's termination of its traditional contractor review process. Instead, the Department instituted a Business Management Oversight Pilot project to change the way it administered contracts at the laboratories. The pilot project required that business processes be reviewed only once a year for a two-week period. Any other reviews performed at the laboratories would have to be "for cause." Under the program, the Department was to rely on laboratory self-assessments; the laboratories were to establish management systems to meet performance expectations; and, reviews conducted by DOE were to be results-oriented, focusing on agreed-to, predetermined performance objectives and measures.

In May 1995, I wrote the then Deputy Secretary to express my concern that the Business Management Oversight Pilot project appeared to reduce the authority and capability of DOE to perform adequate contract administration using its traditional evaluation mechanisms. Because the program relied on the successful implementation of mutually developed performance measures, I was concerned that the Department was moving too aggressively to reduce its capability to perform contract administration before the required supporting performance measures and information systems were in place. The Pilot project was adopted Departmentwide on May 15, 1996.

In September 1997, the Department's Laboratory Operations Board (Board) issued a report on the efforts to reform the Department's management of its laboratories. This report cited a number of general findings and recommendations. Among its findings and recommendations, the Board cited inefficiencies due to DOE's complicated management structure in both Headquarters and the field. The Board recommended that DOE undertake a major effort to rationalize and simplify its Headquarters and field management structure to create a more effective line management, resulting in clearer roles and responsibilities, as well as reduced costs. Also, the Board recommended that a set of principles be developed for managing the laboratories.

Among its other conclusions, the Board commended DOE for certain productivity improvements, but recommended a more rapid rate of progress. The Board mentioned that the Department has reduced the number and cost of business practices reviews. The report stated that "The laboratories generally perceive this as successful and it has enabled significant savings." However, the Board was not satisfied that a parallel reduction in laboratory management by DOE had been experienced in the areas of environmental, safety and health reviews and technical reviews.

My concerns expressed to the then Deputy Secretary in 1995 are still valid today. I still believe that the Department is moving too aggressively to reduce its capability to perform contract administration before the required supporting performance measures and information systems are in place.

Contract Administration

OIG reviews have identified weaknesses in the Department's administration of its laboratory contracts. Under its traditional management and operating contracts, DOE accepted all risk, reimbursed all contractor costs, and paid small management fees or allowances. Further, these contracts had broadly defined scopes of work. Because of the recognized weaknesses in DOE's management and operating contracting approach, OMB has designated contract administration in the Department of Energy as a high risk area. Congress has also insisted on greater accountability for the taxpayers' money spent by the Department at its laboratories. This subcommittee addressed contract administration at a February 1993 hearing on the Department's administration of management and operating contracts. The Department has attempted to move to more specificity in its contracts. The past practice of paying small fees and allowances has changed. The Department is now paying higher contractor fees than ever. For example, available fees have risen from under \$100 million in FY 1992 to over \$450 million in FY 1996 for all DOE contractors. We have not, however, looked at the breakdown of available fees or allowances for the laboratories.

The Department must ensure that its laboratories operate economically, efficiently, and effectively. The Department is attempting to meet this challenge by establishing contractor performance measures. The Government Performance and Results Act of 1993 established requirements for Federal agencies to demonstrate value and productivity. DOE has attempted to implement these requirements as part of its contract reform effort. DOE and its

contractors are required to negotiate up-front agreements on performance measures that will clearly demonstrate the value added and the productivity of the laboratory operations. Reports issued by my office have raised concerns about the system in place to measure contractor performance. Further, these reports illustrate the difficulty that DOE has in evaluating the efficiency and effectiveness of its laboratory operations.

Measuring Laboratory Performance

Contractor performance and resulting award and incentive fees are based on evaluations of measures agreed to by the Department and its contractors. One system used to determine how well the contractor met the safety and health performance measure was the Computerized Accident/Incident Reporting System. Our Audit of the Department of Energy's Contractor Occupational Injury and Illness Reporting Practices showed that the three Department contractors which were reviewed, including one major laboratory, were underreporting significant worker injuries and illnesses. A subsequent report issued by the Office of Environment, Safety and Health confirmed this deficiency was Departmentwide in nature. Without complete and accurate injury and illness data, the Department could not measure the contractors' safety performance.

An audit of the Department of Energy's Scientific and Technical Information Process disclosed that technical deliverables for laboratory research and development efforts were not always identified at the beginning of the laboratory projects. Despite Departmental requirements, the laboratories included in the review did not identify what deliverables would be produced at the outset of

Department funded research. The actual results of the research and studies performed at DOE laboratories were not always provided to the Department's Office of Scientific and Technical Information to be made available to the greater research community. Without the widest possible dissemination of research results, as required by DOE policy, duplicative research may be performed and other researchers may not have had the benefit of the outcome of the scientific inquiry. While we recognize the difficulty in defining deliverables and other performance measures for basic research, we concluded that making the results of such research available to the broadest possible audience is a reasonable expectation. Further, we noted that the Department had directed the development of a new research and development tracking system and, beginning in 1996, each laboratory was directed to identify the deliverable expected for each approved R&D project and track each project with a unique identifying number. We have not evaluated the implementation and execution of this new system.

Economic and Efficient Laboratory Operations

The Office of Inspector General has done extensive work in identifying economy and efficiency issues at the laboratories. These areas include managing Federal funds, intra-Departmental laboratory purchases, the use of laboratory employees, construction and technical services, and leased facilities.

Managing Federal Funds

An inspection of the management of Selected Intelligence and Special Access Program Work-for-Others Projects disclosed that at Lawrence Livermore National Laboratory, at least \$405,000 was spent for work-for-others projects in excess of the funding provided by the customer agency. This excess funding was financed by Departmental appropriations and other customers' funding. A subsequent investigation into this matter determined that project costs for several work-for-others customers had also been charged inappropriately and could not be justified. In addition, DOE program managers were responsible for monitoring overall costs of work-for-others efforts to ensure that approved funding levels were not exceeded. DOE program managers failed to detect this excess funding. Internal control weaknesses resulted in the processing of cost transfers that were inadequately explained or documented. As a result of the OIG review, the U.S. Department of Justice brought a civil false claims action against the contractor. The contractor reimbursed the Government about \$2.7 million.

Intra-Departmental Laboratory Purchases

The Department's management and operating contractors, primarily the operators of its laboratories, annually purchase over \$270 million in goods and services from each other. The instruments used to obtain these goods and services are intra-Departmental requisitions. Under Departmental procedures, an intra-Departmental requisition can only be used when acquiring goods and services which involve work which is not available from either the domestic private sector or the public sector. However, we found that the goods and

services obtained under intra-Departmental requisitions were frequently available commercially and at a lower cost. Our May 2, 1997, report on the Department's Use of Intra-Departmental Requisitions disclosed that \$850,000 of the approximately \$1.6 million in costs for bioassay analysis on two requisitions could have been saved by using other than intra-Departmental requisitions. Concerns regarding the use of intra-Departmental requisitions were previously identified in OIG reports in 1988 and 1993. The Department, in responding to the current report, agreed to (i) define the appropriate use of intra-Departmental requisitions for purchases between laboratories and (ii) establish internal controls to ensure that intra-Departmental requisitions are used only when appropriate.

Laboratory Employees

In 1996, we reviewed the use of management and operating contractor personnel at Headquarters to determine if the use of such personnel was being managed by Department officials. The audit, a review of the Department of Energy's Program Offices' Use of Management and Operating Contractor Employees, identified 378 laboratory employees working in the metropolitan Washington, DC area. Of the 378, at least 220 provided a wide range of administrative and technical support services directly to the program offices. We found that some laboratory employees were providing non-research and development support services in various program offices in Washington, DC. Further, the Department was not aware of the magnitude of the reliance on laboratory employee support or the associated cost implications. We also found that the Department was augmenting its Federal workforce in a way that might not be cost-effective and consistent with its staffing objectives. When this

problem was brought to DOE management's attention, the Department responded by stating that "...in October 1995, the Deputy Assistant Secretary for Procurement and Assistance Management requested Headquarters program offices to develop an inventory of M&O employees providing support services to Headquarters. A report of that inventory has been provided to the Deputy Secretary. The inventory includes the employees' names, what duties they are performing, and how much they cost per month." Because of concerns as to whether the Department's inventory was complete and comprehensive, the Office of Inspector General is currently performing an expanded review of this area. The tentative results of the expanded audit, which is in process, have been provided to the Department for comment.

Construction and Technical Services

Construction projects at the Department's laboratories were initiated using alternatives that may not have been the most economical. Some of the projects were chosen without considering changes in mission, downsizing requirements, vacant laboratory space, and future mission requirements. Additionally, DOE laboratories paid more for architect and engineering services associated with the construction projects than private industry paid for similar services.

The Audit of the DOE's Environmental Molecular Sciences Laboratory (EMSL), issued in April 1995, showed that DOE had not evaluated all alternatives resulting from the Department's downsizing throughout the complex before deciding to build the new laboratory. The primary focus of the new laboratory was to be basic research with multi-site applications. In the Department's justifications for the project, there was no discussion of the option to locate the

single facility at other sites or laboratories because of space that had become vacant due to reductions in Defense-related research. At the time of our audit, we identified three unused facilities that were not considered as alternatives to construction of the new laboratory. We noted that over 400,000 square feet of research and development space was vacant at several laboratories. Some of the laboratories with vacant space that might have met the proposed research laboratory requirements were performing related molecular science research. The Department accepted the proposal to construct the EMSL at Richland. Construction on the laboratory began in July 1994 and it became operational in 1997.

An audit of Renovation and New Construction Projects at Lawrence Livermore National Laboratory (Livermore) showed that Livermore had not demonstrated that it had selected the best alternatives for meeting the Department's needs while minimizing cost. For example, Livermore pursued the renovation of Building 431, estimated to cost \$33 million. This building is an old (1950's) high-bay experimental facility (five stories high) which is being considered for conversion to an office building with a central atrium that will create a minimum of 180,000 net square feet of office and support space. This space is expected to house about 800 employees (about 225 square feet per employee). The office space allotted, if this project is completed as planned, is more than allowed under the contractual space standard which was 165 square feet per person. In essence, Livermore would be renovating and creating about 48,000 excess square feet. The Department agreed with our recommendation to perform cost benefit analyses of all alternatives and select the best alternative for meeting mission needs at the least cost.

The Audit of Construction of an Environmental, Safety, and Health Analytical Laboratory at the Pantex Plant disclosed that the mission requirements used to justify this laboratory were already being satisfied at other onsite laboratories or at commercial laboratories. We concluded that the Department planned to spend an additional \$8.4 million on a laboratory that was not adequately justified and that may compete with private sector laboratories. In responding to the report, management agreed to suspend all work and funding for the project until the need had been clearly established and documented.

During the Audit of Construction Management at the Idaho National Engineering Laboratory, we found that five facility upgrade and expansion projects valued at about \$4.3 million were not needed to support the Laboratory's mission. Further, two facility replacement projects could have been downsized by the Idaho Operations Office at a savings of about \$22.1 million. Laboratory officials had planned to upgrade two buildings' utilities at a cost of about \$981,000 during FY 1996. The two buildings, however, were scheduled for closure by the end of FY 1995, at which time the utilities would be turned off. When funding became available, the buildings were to be demolished. The test area surrounding these two facilities was also scheduled to close within the next 15 years. Idaho Operations Office generally agreed with our recommendations to cancel the projects and to reestablish a need based on current staffing and mission.

In addition to the issue of approval of construction projects, the OIG also has evaluated other aspects of the Department's laboratory construction program. For example, one audit concluded that the Department paid higher architect and engineering costs than comparable industry standards. During the Audit of Architect and Engineering Costs at the Idaho National Engineering Laboratory,

we found that architect and engineering costs for 65 conventional construction projects were, in the aggregate, \$5.8 million higher than comparable industry standards. Specifically, we found that the Laboratory did not have a way to measure the performance of its design programs; the Idaho Operations Office's policy for selection of these types of services precluded price competition for design services; and, design services for conventional construction at the Laboratory were in more detail than necessary. Management agreed with the findings and recommendations; however, it had reservations about the benefit of benchmarking government costs to private industry.

A review was conducted of the Nuclear Materials Storage Facility (NMSF) at the Los Alamos National Laboratory (LANL), a facility originally designed to provide mid- to long-term storage of Los Alamos' nuclear materials using state-of-the-art nuclear material accountability techniques while mitigating potential environmental, safety, and health impacts. The facility was constructed at a cost of \$19.3 million. However, this facility never became operational for its intended purpose. After the facility was occupied in February 1987, Department and contractor officials discovered numerous design, construction and operational deficiencies. The deficiencies were a result of poor design and construction such as the inability to: (i) control and balance the heating, ventilation and air conditioning system to maintain acceptable negative pressures within the facility; (ii) dissipate the heat generated by radioactive decay of the materials to be stored; (iii) limit personnel radiation exposures to "as low as reasonably achievable;" and (iv) open and secure the Safe Secure Trailer (SST) doors due to the inadequate width of the garage once the SST's were parked in the garage. A Root Cause Analysis Report, prepared by the Department's Los Alamos Area Office in April 1993, stated that Departmental officials and the Management and

Operating contractor were responsible for inadequate design requirements for the facility. The report also stated that there was inadequate management on the part of DOE, LANL, the Construction Manager, the Architect/Engineer and the construction contractor. As a result, DOE officials concluded that there was no basis for recovering damages from the architect/engineer or the construction contractor due to government and LANL culpability.

A renovation project is planned for the NMSF. The preliminary design for the renovation project is scheduled to begin in October 1997. The renovation project is estimated to cost \$56.7 million according to the FY 1998/FY 1999 Congressional Budget project sheets. Therefore, the total cost of this building is estimated to be about \$75 million. OIG recommendations for improved project and construction management and better architect/engineer accountability were incorporated in this renovation project. However, the Department has not yet implemented the recommended policies and procedures Departmentwide for other DOE field sites to include project managers as key personnel in management and operating contracts and to provide guidance for architect and engineer accountability.

Leased Facilities

IG reports have disclosed that the Department has not effectively managed the process of leasing administrative facilities for itself and its laboratory contractors. Our report on the Audit of the Department of Energy's Leased Administrative Facilities showed that the Department was paying for significantly more space than it needed and that it did not have a system to identify completely its leased space. We reviewed leases in effect between February and August 1996,

representing approximately 25 percent of the Department's known leased space, and found over 249,000 square feet of vacant space costing the Department about \$5.6 million annually. This included space in the Washington, DC area leased for ten of the Department's laboratories. We also identified leased space for which the Department had no record in its Facility Information Management System, which was supposed to be a comprehensive Departmentwide database. Headquarters' needs were handled by one office and the field locations handled their own space needs. Although the Department spent about \$1.8 million to develop and implement the Facility Information Management System, the field sites were not using it as their current real property information system and many had no plans to use it. The Department cannot be sure its leasing is cost effective and necessary without proper and complete information and coordination.

Conclusion

We have disclosed weaknesses in contract administration in the management of the DOE laboratories. We have provided the Department with a series of recommendations that are intended to assist the Department in improving the way it manages its laboratory system. These recommendations include:

- *Canceling laboratory projects* when they are no longer needed;
- *Establishing performance measures* for the reporting of scientific and technical information in contracts for research and development activities;
- *Implementing the existing system or creating a new research and development system* that identifies anticipated scientific and technical information deliverables when the management and operating contractor task assignments or work authorizations are issued;

- *Establishing processes to track scientific and technical information deliverables on a life-cycle basis that are integrated into Departmental systems;*
- *Reducing laboratory project costs by benchmarking operations against industry and other governmental standards;*
- *Obtaining the greatest benefits at the most reasonable costs by identifying and analyzing all alternatives for construction projects;*
- *Redefining construction needs to reflect current and anticipated events such as mission changes, downsizing, or realignment;*
- *Implementing an effective quality assurance program for a construction and renovation project; and,*
- *Allowing purchases between DOE laboratories only when economical and appropriate.*

Many of our recommendations have been the impetus for corrective action. For example, the Department has started implementation on our recommendation to develop systems to track anticipated laboratory scientific and technical information deliverables. Further, the Department, in responding to our recommendations to periodically redefine construction projects, has canceled or downsized construction or renovation projects at the Idaho National Engineering and Environmental Laboratory. The Department has begun a systematic review of the placement of laboratory employees within DOE program offices. In addition, the Department has implemented our recommendations to hold contractors accountable for the renovation of the Nuclear Materials Storage Facility to ensure it will be useable when completed.

In summary, we have made these recommendations based on our concerns that every dollar spent on an inefficient process or uneconomical action means a

dollar less that can be devoted to the scientific mission of the Department's laboratories.

Mr. Chairman and Members of the Subcommittee, this concludes my prepared testimony. I will be happy to answer any questions you may have at this time.

U.S. DEPARTMENT OF ENERGY

CONTRACTOR-OPERATED LABORATORIES

<u>LABORATORY</u>	<u>FY96 COSTS (MILLIONS)</u>
Sandia National Laboratories (2)	\$1,073.4
Los Alamos National Laboratory	\$997.7
Lawrence Livermore National Laboratory	\$815.8
Idaho Natl. Engineering and Environmental Lab.	\$585.8
Argonne National Laboratory (2)	\$471.2
Brookhaven National Laboratory	\$403.0
Oak Ridge National Laboratory	\$394.2
Pacific Northwest National Laboratory	\$361.0
Lawrence Berkeley National Laboratory	\$300.5
Knolls Atomic Power Laboratory	\$282.8
Bettis Atomic Power Laboratory	\$281.4
Fermi National Accelerator Laboratory	\$271.9
National Renewable Energy Laboratory	\$206.3
Stanford Linear Accelerator Center	\$195.4
Thomas Jefferson National Accelerator Facility	\$70.7
Princeton Plasma Physics Laboratory	\$65.1
Oak Ridge Institute for Science and Education	\$47.2
Ames Laboratory	\$29.5
Energy Technology Engineering Center	\$14.6
Inhalation Toxicology Research Institute	\$13.5
Savannah River Ecology Laboratory	\$11.3
Laboratory of Radiobiology and Environmental Health	<u>\$1.5</u>
TOTAL ^{1/}	\$6,893.8

1/ Total does not include about \$900 Million of work-for-others.
SOURCE: DOE FY 1996 Laboratory Cost and Obligations Detail